

Drying continues
NEW! 5 Station Southern Sierra Index
Wacky cool down
Climate Change paper
Extreme Precipitation Symposium

The numbers keep dropping. The statewide Water Year runoff estimate through September, 2008 now stands at 59% of average. That's calculated using conditions through May 20. This estimate for full natural flow for statewide river systems including the North Coast, the span of the Sierra, and lee-side (Truckee, Carson, Walker) rivers bodes ill for our water supply. The estimate stood at 67% on April 1. But the forecast continues to drop, and will be updated in coming weeks. As mentioned in previous newsletters, there are many factors contributing to low projections.

Total forecasted runoff has a number of ingredients, as most of you are aware. These include snowmelt, previous year runoff, rainfall (both early season and late), runoff to date, and projected runoff. Each of these factors have been below normal this year, and most were last year, as well. Last year ended Dry, Critical for the Sacramento, San Joaquin systems, respectively. Then October through December precip was below average. It was a cold winter, with only two good months of snow; January and February. Some was lost to dry ground, and possibly to sublimation (essentially evaporation from snow to vapor) during a windy, dry spring. We've had the driest spring on record for the Northern Sierra in the last 88 years. The 8 Station Northern Sierra precipitation seasonal total still stands only at 72% of average for the year. Runoff to May 1 was only 57% of normal. It's like a perfect storm, or more accurately, a perfect non-storm.

Drought? Well, things sure look poor. Each of the factors that would go into that sort of designation are in bad shape. Rather than give more numbers, I thought I'd give a basic letter grade for this year:

Precipitation	C-
Snowpack	D+ (good midterm effort, but failed the final exam)
Runoff	D- (no warm, moist winter storms, and thirsty ground)
Soil Moisture	C- (saw a bump during the winter, but falling again)
Duration of Dry	C (second year)
Reservoir Storage*	D
*(October 1, 2008 projection is about 65% of normal, currently 80%)	
*(Reservoir storage for May 1, 2008 was the lowest May 1 since 1994.)	
Water Year Index	F Critical for both Sacramento and San Joaquin systems

When you take into account a multi-year drought for the Colorado River, pumping/ allocation reductions due to Wanger, and the possibility that longer droughts could occur in a warming climate, it's becoming a bit worrisome.

The latest executive summary can be found here:
<http://cdec.water.ca.gov/cgi-progs/reports/EXECSUM>

Drought Monitor:

<http://www.drought.unl.edu/dm/monitor.html>

The snow coverage that remains over the state is best viewed by graphical depictions of satellite measurement. This month's report is now posted on the State Climatologist website:

http://www.climate.water.ca.gov/docs/Snow_Covered_Areas_May_2008.pdf

April's climate summary for California is now on the web:

http://www.climate.water.ca.gov/climate_data/

The water season runs from October 1 - September 30 each year. The 8 Station Index is a track on yearly precip for the top of the state, if you will. The locations- Mt. Shasta City, Shasta Dam, Mineral, Brush Creek, Quincy, Sierraville, Pacific House, and Blue Canyon help determine inflow for Shasta, Oroville, and to some degree, Folsom. This year there will be an additional useful index tracked by DWR (Department of Water Resources). The 5-Station Southern Sierra Index will tally precip (rain or melted snow) for Calaveras Big Trees, Hetch Hetchy, Yosemite Headquarters, North Fork, and Huntington. This data goes back over a hundred years for some of those sites. A new great addition to our data base!

The last couple of days have been cool and unsettled over the state. This particular low pressure center is very large, especially for this time of year. Record low pressure for the month of May was set today in Sacramento. At 5am, May 23, Executive Airport had a barometric pressure of 29.36". The previous May record had been on May 27, 1950 with 29.50". It's a very cold system, and is taking a similar track to many storms of this past winter. It's almost as if the dying La Nina is taking one more stab at the west coast. If this were winter, the low would be doing just what several did in Jan and Feb; bringing very strong winds, Sierra snow, and only moderate valley rainfall. Since its late in the season, and there's not a lot of moisture available, we're left with the chill, thunderstorms, and light Sierra snow to 6,000' this weekend! The beast of a low slowly drifts westward, undergoes slight decay, then drifts again eastward over CA midweek. So, yes, it will stay nice and cool!

Thunderstorms struck SoCal yesterday, with a tornado reported in Riverside/ Moreno Valley. Maximum storm rainfall up to 11am this morning was 2.77" at the Santa Fe Dam, in LA County. Simultaneous statewide weather weirdness from snow potential this weekend in the Sierra, and the Santa Monica range, to wildfires along the central coast, and severe weather in the southland. WHO says meteorology isn't exciting? Just a week ago, we saw record heat in Modesto, Stockton and Redding with successive triple digit days. Executive and DTS (Downtown Sac) did get to 102 on the Saturday, the 17th (not records). By the way, the last year that Sacramento went 100-degree free was in 1907!

For a review of potential climate change impacts to California, and the efforts to incorporate climate change risk assessment into water management, please go to:

<http://springerlink.com/content/tk10720k416377j5/>

Lead author is Jamie Anderson, DWR, with co-authors from DWR, USBR, and UC Davis.

Reminder about the 2008 California Extreme Precipitation Symposium on June 20. This year the American River Watershed Institute sponsored event will be held at UC Davis. For more info and registration, please go to:

www.arwi.us/precip

Special thank you, as always, to our snow surveys professionals!

Look for another newsletter in June/July.

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